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Claims (Amended)

1. (currently amended) A method for making a laminate structure comprised of two sheets of base metals comprising the steps of:

- (a) presenting a first sheet of a base metal having a coated surface with a first alloyable metal deposited thereon, said base metal and said first alloyable metal each having a melting point;
- (b) presenting a second sheet of a base metal having a coated surface with said first alloyable metal deposited thereon, said base metal and said ~~second~~ first alloyable metal each having a melting point;
- (c) placing a sheet of a second alloyable metal between said coated surface of said first and second sheets of base metal to form an unconsolidated structure; then
- (d) applying a first pressure to said first and second sheets of base metal to compress said sheet of second alloyable metal disposed therebetween;
- (e) heating the compressed structure to a phase transition temperature that is below said melting points of said base metal and said first and second alloyable metals;
- (f) maintaining the compressed structure at ~~the~~ said phase transition temperature to form a laminate structure; then
- (g) cooling the laminate structure.

2. (currently amended) A method for making a metallic bond between two or more dissimilar base metals comprising the steps of:

- 1 (a) presenting a first base metal member having a coated surface with a
2 first alloyable metal deposited thereon, said first base metal and said
3 first alloyable metal having respective melting points;
- 4 (b) presenting a second base metal member that comprises a second base
5 metal that is different than said first base metal, said second base metal
6 member having a coated surface with said first alloyable metal
7 deposited thereon, said second base metal having a melting point;
- 8 (c) placing a sheet of a second alloyable metal between said coated
9 surface of said first and second base metal members to form an
10 unconsolidated structure; then
- 11 (d) applying a first pressure to said first and second base metal members
12 to compress said sheet of second alloyable metal disposed
13 therebetween;
- 14 (e) heating the compressed structure to a phase transition temperature,
15 wherein said phase transition temperature is less than said melting
16 point of said first and second base metals and said alloyable metal;
- 17 (f) maintaining the compressed structure at ~~the~~ said phase transition
18 temperature to form an alloy comprising said first and second alloyable
19 metals between said first and second base metal members; then
- 20 (g) cooling the compressed structure, said alloy thereafter forming a
21 metallic bond between said first and second base metal members.

1 3. (currently amended) A method for making a metallic bond between two
2 dissimilar metals comprising the steps of:

- 3 (a) presenting a first base metal member having a melting point and
4 coated surface with a first alloyable metal having a melting point
5 deposited thereon;
- 6 (b) presenting a second base metal member that comprises a second base
7 metal that is different than said first base metal, said second base metal
8 being comprised of an alloyable metal and having a melting point;
- 9 (c) placing the said coated surface of said first base metal in contact with
10 said second base metal to form an unconsolidated structure; then
- 11 (d) forming a compressed structure by applying a first pressure to said
12 first and second base metal members to ensure contact between the
13 alloyable metal constituents;
- 14 (e) heating the compressed structure to a phase transition temperature that
15 is less than said melting point of said first base metal and said second
16 base metal;
- 17 (f) maintaining the compressed structure at the phase transition
18 temperature to form an alloy comprising said first and second alloyable
19 metals at the interface between said first and second base metal
20 members; then
- 21 (g) cooling the compressed structure, said alloy thereafter forming a
22 metallic bond between said first and second base metal members.

1 4. (original) The method for making a laminate structure comprised of two sheets
2 of base metals in accordance with Claim 1 wherein said first and second base
3 metals are selected from the group consisting of Fe, Steel, Stainless Steel, Ni, Ti,
4 Al, Mg, Cu, Au, Ag, Pt, Pd, W, Sn, Zn, In, Pb and alloys thereof.

5 5. (original) The method for making a laminate structure comprised of two sheets
6 of base metals in accordance with Claim 2 wherein said first and second base
7 metals are selected from the group consisting of Iron and Iron Alloys, Steel
8 Alloys, Stainless Steel Alloys, Nickel and Ni Alloys, Ti and Ti Alloys, Al and Al
9 Alloys, Mg and Mg Alloys, Cu and Cu Alloys, Au, Ag, Pt, Pd, W, Sn, Zn, In, Pb
10 and alloys thereof.